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THE RHODE ISLAND MEDICAL JOURNAL

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CONTENTS

ORIGINAL ARTICLES

Report of the Delegate from the Rhode Island Medical Society to the American Medical Association. Guy W. Wells, M.D. 179

Undulant Fever. Morris L. Grover, M.D. 180

Contents continued on page IV advertising section.

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Loose Stools in Infants

require extra diapering, and inconvenience the mother

Clinically, loose stools are accompanied by a dehydration which, when excessive or long continued, interferes with the baby's normal gain. A long-continued depletion of water is serious, since "the fluid requirements of an infant are tremendous. A normal infant 15 pounds in weight will frequently excrete as much as one litre of urine per day. A negative water balance for more than a very short period is incompatible with life." (Brown and Tisdall)

Moreover, when the condition is superimposed by chance infection, the delicate balance may be seriously upset, since the infant's reserves have already been drawn upon, so that resistance to infection and dangerous forms of diarrhea may be too low for safety. Every physician dreads diarrhea, which Holt and McIntosh call "the commonest ailment of infants in the summer months."

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ORIGINAL ARTICLES

REPORT OF THE DELEGATE FROM THE RHODE ISLAND MEDICAL SOCIETY TO THE AMERICAN MEDICAL ASSOCIATION

GUY W. WELLS, M.D.

The annual convention of the American Medical Association held this year in Cleveland was unusually successful and important.

All meetings and scientific exhibits were held in the auditorium which enabled the visitors to get the most with the least expenditure of time and effort. The programs were well arranged and made up of timely subjects and maintained the standard of previous meetings. The number of scientific exhibits were, I believe, larger and better displayed than in any previous convention. The interest displayed in the exhibits was great. Particular effort was made by the exhibitors to disseminate clearly the largest amount of information in the most concise manner and shortest time. In fact, had those exhibiting not done so one could have seen only a few of the booths. This phase of the convention will undoubtedly merit even more attention in the future.

The importance of this year's meeting is indicated also by the number of doctors who registered for the various sections, 6,293. It was the fourth largest meeting. I am glad to say ten were from Rhode Island. Atlantic City was chosen for the 1935 convention and many more from this State will probably attend.

Although economic conditions of the past four years have been depressing, the American Medical Association seems to have suffered but slightly. Only a very small decrease in membership exists. The financial condition of the Association is unimpaired, and the scope of its publications has been increased. This is in keeping with the policy of the Association to maintain leadership in the field of scientific medicine. I would recommend to your attention some of the special journals that are printed because of their value in the advancement of medicine, although at considerable loss financially. The review of all foreign medical literature is another department of the *American Medical Journal* that is unequalled by any other publication in the world.

The address of President Dean Lewis is particularly significant since it is in keeping with the ideals of the profession, namely, that medicine is not a business. He referred with pride to the added responsibilities the profession has cheerfully assumed, and considered it an answer to those critics who do not recognize that the medical profession has always led in the fight for prevention and cure of disease.

In addition, the President further urged that State Societies sponsor post-graduate courses for physicians, such as, I imagine, was done for a brief time in Rhode Island a few years ago, and is now being done by some other states.

President-elect Dr. Bierring, in his address, also stressed the individual relation between patient and doctor as a reason that medicine could never become a business. He advised a closer supervision of medical education by the Association since medical practice and education are so closely related. Dr. Bierring spoke of changing conditions that have stimulated non-medical advisers to bring forth a plethora of plans for regulating medical practice. These, as may well be expected, fail to take into account the fact known longest to doctors—that human beings cannot be treated as machines.

During the past year the Association has vigorously prosecuted work in special fields already established.

Through the work of the Committee on Food, commercial houses are vying with each other for endorsement of their products. In order to gain such a stamp of approval certain high standards must be met, the most important of which is honest advertising. This service is one of great value to the public and should be under governmental control. However, it is doubtful if legal measures could ever be so effective.

Of equal importance to the welfare of the public is the subject of medical advertisement by means of the radio. The House of Delegates adopted a reso-

lution condemning the practice of broadcasting of non-supportable claims for patent medicines, preparations and appliances for curing human ailments. Copies of this resolution are to be sent to all members of Congress. Certainly this resolution has the active support of every doctor.

The work of the Council on Pharmacy and Chemistry is well known to all because of its increased influence on the development of medicine. The extent of the work and the efficiency of this Bureau, however, is realized all too little by the profession and should receive greater attention.

The Council on Physical Therapy has done careful investigative work and prevented exploitation of questionable apparatus. At the same time an attempt has been made to acquaint the profession with reliable information concerning the value of physical therapy.

Bureau of Economics: Because of changed economic conditions generally during the past four years the Bureau of Economics has been of exceptional value to the medical profession and merits a greater interest on the part of the profession. Subjects such as Workmen's Compensation, Contract Practice, Collection Agencies, Health and Accident Insurance and Care of the Indigent have been studied and the results are available to members of the Association.

The report of a special committee appointed to consider a resolution on Health Insurance was of particular interest. Powerful influences within and without the profession are endeavoring to socialize medicine. They have made an insidious but determined beginning of which more will be said. Let me say in passing, if the profession does not wish to be ruled by non-medical, political forces, it had better increase its numbers in organized medicine to actively combat clever propaganda already in circulation. Without making recommendations for any plan, it suggested that any experiment embody the following basic principles:

1. All phases of medical service to be under control of the medical profession.
2. No third party must be permitted to come between the patient and his physician in any medical relation.
3. Patients must have absolute freedom to choose a duly qualified doctor of medicine who will serve them from among those qualified to practice and willing to serve.
4. The method of giving service must retain a permanent, confidential relation between patient and a family physician.
5. All medical phases of all institutions involved in medical service must be under professional control, it being understood that hospital service and medical service be considered separately.
6. However the cost of medical service may be distributed, the immediate cost should be borne by the patient if able to pay at the time service is rendered.
7. Medical care must have no connection with any cash benefit.
8. Any form of medical service should include within its scope all qualified physicians of the locality covered by its operation who wish to give service under the conditions established.
9. Systems for relief of low income classes should be limited strictly to those below the comfort level of standard incomes.
10. There should be no restrictions on treatment or prescribing not formulated and enforced by organized medical profession.

If these principles are followed I am sure there will be diminished ardor on the part of those desiring to control medicine.

Election of Officers

Dr. James S. McLester was elected President-elect and Dr. George C. Reinle, Vice-President.

Dr. Olin West was elected Secretary.

Dr. Herman L. Kretschmer was elected Treasurer.

Dr. Warnshius was elected Speaker of the House of Delegates, and Dr. Van Etten, Vice-Speaker of the House of Delegates.

Dr. Roger I. Lee was elected Trustee to succeed Dr. Chester Brown, who became automatically ineligible. Dr. Allen H. Bunce was re-elected.

UNDULANT FEVER*
(*Brucellosis Hominis*)

MORRIS L. GROVER, M.D.
EPIDEMIOLOGIST
RHODE ISLAND PUBLIC HEALTH COMMISSION

The past few years have witnessed the emergence of Undulant Fever (*Brucellosis Hominis*) from the category of clinical curiosities to a position of importance as a public health problem. It is

*Read before the Washington County Medical Society, July 11th, 1934.

quite probable that the disease has existed without recognition and has afflicted mankind for centuries, but owing to lack of adequate diagnostic methods it has, until recent times, remained shrouded in obscurity.

According to historical record, the causative organism was isolated by Marston[1] in 1859, from the spleen of patients who died of a disease known as "Mediterranean, or Gastric Fever." The Melitensis form of the organism was identified, dated and described as a micrococcus by David Bruce,[2] in 1886. The name "Micrococcus Melitensis"[3] was given by him to this causative organism in 1893. The true host of M. Melitensis, or B. Melitensis, as it is now called, is the wild goat. This fact was discovered by Zammit[4] in 1905. The Mediterranean Fever Commission, headed by Sir David Bruce, was appointed in 1904 by the Admiralty, the War Office and the Civil Government of Malta. Under the supervision of the Advisory Committee of the Royal Society, this Commission strove, during the period 1905-1907, to fathom the riddle of the epidemiology of Malta Fever. As a result of their investigation, the members of the Commission demonstrated that the ingestion of raw goat's milk was the common source of infection for man. Prohibiting the use of raw goat's milk by the men of the military and naval forces on the Island of Malta resulted in an immediate and rapid decline in the incidence of the disease. Inasmuch as the first recognition of the disease occurred along the Mediterranean Coast, it was early designated as Malta Fever, Mediterranean Fever, Gibraltar Fever, Rock Fever, Neapolitan Fever, and Cyprus Fever.

The first case of so-called Malta fever in the United States was reported in 1905 by Colonel Craig, Medical Corps, U. S. A. The patient was a nurse, who, it was supposed, contracted the disease in Washington, D. C., probably acquiring the infection while nursing soldiers. The same disease was recognized at a shortly later date in nine soldiers from the Philippines. Although Craig had indicated that Malta fever was probably not a rare disease in the warmer portions of the United States, and that cases of so-called anomalous typhoid fever could well be, in reality, infections with the organism of Malta fever, little attention was paid at the time to these observations.

Ferenbaugh[5] and Gentry, about 1911, reported recognizing the disease in five patients in Texas. These cases gave a history of having worked with goats and drunk their milk. Yount and Looney later reported five cases from Prescott in Arizona. It is interesting to note that in these reports was indicated the probable fact that Malta fever had existed in Texas and Arizona for at least 25 years.

In 1913, at a meeting of the International Congress of Medicine, held in London, the Section of Tropical Medicine recommended the adoption of the name "Undulant Fever" for the disease. This name was first proposed by Hughes[6] in 1896, who believed it to be descriptive of the disease.

The relationship of contagious abortion disease in cattle, and undulant fever in man, was not early appreciated. The causative organism of contagious abortion was isolated by Bang[7] in Copenhagen, in 1897, from the placentas and foetuses of cows; and by Schroeder[8] and Cotton, in the United States, in 1911, from the milk of apparently healthy cattle. Kennedy,[9] in 1914, observed that the milk of cows in London agglutinated the Micrococcus Melitensis. This observation probably influenced Larson[10] and Sedgewick in 1915, Nicolle[11] and Pratt in 1915, and Cooledge[12] in 1916, to call attention to the important fact that a fairly large percentage of children consuming raw cow's milk gave positive serum reactions with B. Abortus.

The Micrococcus Melitensis of Bruce, and the Bacillus Abortus of Bang, were for a period of over twenty years regarded as separate, distinct and unrelated species. As a result of a series of intensive studies, Alice Evans,[13] in 1918, concluded that the two organisms were morphologically, culturally, biochemically, and by ordinary agglutination tests, indistinguishable. Evans at that time also stated: "Considering the close relationship between the two organisms and the reported frequency of virulent strains of Bacterium Abortus in cow's milk, it would seem remarkable that we do not have a disease resembling Malta fever prevalent in this country." According, however, to the prevalent teachings of the time, undulant fever was an endemic disease occurring along the shores of the Mediterranean Sea, parts of Asia, South America, South Africa, and certain islands of the Pacific Ocean. It was also thought that the disease was contracted only through the handling of infected goats, or through the consumption of raw goat's milk and milk products.

In 1921, Bevan[14] brought attention to the remarkable association of undulant fever in man, and an epizootic abortion in cattle in Rhodesia; in 1924,

Keefer,[15] from a case of Malta fever, isolated from the blood in pure culture, the abortus organism. Carpenter,[16] in 1927, recovered what corresponded with the same organism from the blood of ten cases of undulant fever; inoculation of five pregnant heifers with these cultures resulted in prompt abortion. The observations of Evans, Keefer and Carpenter have been amply confirmed by subsequent studies carried on throughout the world. We, now, definitely know that the organism which causes contagious abortion in cattle, and other domestic animals, also is capable of producing in humans a disease clinically and bacteriologically identical with so-called Malta or Mediterranean fever.

Within the past eight years, physicians throughout the United States have realized, in many instances, an explanation for unconfirmed diagnoses of typhoid-like and malaria-like diseases. As a result, reports of the discovery of cases of undulant fever have since appeared in all the forty-eight states. During 1926, a total of forty-six cases were reported; these were chiefly from New York, Michigan, Illinois, and Ohio. In 1929, every state health department in the Union recorded cases of undulant fever. As a result of these reports, a number of investigators have conducted extensive studies in several states, their objective being to learn of the incidence of the disease in a circumscribed locality. Thus Simpson[17] has studied 142 cases in Dayton, Ohio, and vicinity; Hardy,[18] over 800 cases in Iowa; and Hasseltine[19] of the U. S. Public Health Service, 109 cases in 14 different states.[20] Similar investigations have been made by Carpenter in New York, Huddleson[21] in Michigan, Bierring[22] in Iowa, King[23] in New York, Farbar[24] and Mathews in Indiana, Brown[25] in Kansas, Sensenich[26] and Giordano in Indiana, and Ey[27] in Ohio. These studies have resulted in the discovery of large numbers of cases which would have otherwise been overlooked. It is difficult to get away from the impression that undulant fever is in reality on the increase. The increasing numbers of reported cases is not due entirely to the general awakening on the part of the medical profession and health officials in the diagnosis of the disease. From the evidence already available, we can be assured that undulant fever is not only much more prevalent than is generally believed, but that there is an actual increase in the incidence of the disease.

The first case of undulant fever recorded in Rhode Island appeared in February, 1929. During the autumn of the same year, the diagnosis was confirmed in two other cases. For the years 1929-1933 inclusive, there were reported in this state a total of seventeen cases. The year 1933 accounted for a total of eleven cases. During the first six months of 1934, a total of six cases were diagnosed and confirmed by agglutination tests at the State laboratories. The writer has detailed knowledge of seventeen of the total of twenty-three cases that have been recorded to date in Rhode Island since 1929. An analysis of these seventeen cases discloses that six were residents of Providence; three, residents of Cranston (one a patient at the State Hospital for Mental Disease); two, residents of Warren; and one case each from Westerly, Hopkinton, Lincoln, Woonsocket and Barrington. Five of the cases were females, and twelve were males. They ranged in age from 11 years to 48 years, with ten of the seventeen falling in the age group 30-40 years. The occupation in this group of cases was not especially significant. All of the seventeen cases gave a history of having consumed raw milk. An examination of the cows from which the milk was obtained disclosed the presence of 20-50% Brucella Abortus infection among the herds that were tested.

The result of the work of Alice Evans made it evident that the Melitensis Abortus group of organisms should be reclassified. In 1920, Meyer[28] and Shaw proposed that the organisms in this group be designated with the generic name "Brucella"; this proposal has since met with universal approval. In the current medical literature, it is customary to discuss at least three strains of Brucella genus. The organism associated with goats (caprine strain) is designated as Brucella Melitensis var. Melitensis; the organism of contagious abortion in cattle (bovine strain) is referred to as Brucella Melitensis var. Abortus; and the organism found in swine infections is known as Brucella Melitensis var. Suis (porcine strain). One of the striking characteristics of the Brucella organism is its marked tendency to exhibit pleo-morphism. Both coccoid and bacillary forms, as well as ovoid forms, are commonly observed. The many attempts in skilled hands to divide the organisms of the genus Brucella into distinct caprine, bovine, and porcine strains have not been uniformly successful. In fact, organisms which have been designated as porcine or caprine have been recovered from cow's milk. In view of the present state of confusion in the designation of names to the disease, and in the uncertainty of strain classification, many workers in the field are inclined towards adopting the single desig-

nation of "Brucelliasis" or "Brucellosis" to the infection.

From the studies of cases conducted by many investigators, it appears that in urban populations the disease is chiefly transmitted through raw milk of cattle infected with the abortus variety of Brucella. From the study of many cases in Iowa, Hardy[18] concludes that direct contact with infected cattle and hogs has been responsible for a great number of cases in that State; also that the abortus and suis varieties of the organism are about equally responsible for the undulant fever morbidity. By animal experimentation, Hardy has demonstrated that the skin may serve as a portal of entry of the organism. Morales-Otero,[29] in Porto Rico, has by inoculation of bovine and porcine strains of Brucella through the abraded skin of human volunteers, also reproduced the infection. From these results, we may gather, then, that there are at least two important routes of human infection:

1. The ingesting of raw milk or unpasteurized dairy products containing the Brucella.
2. Contact with infected animal tissues.

Clinical Aspect

Undulant fever is frequently confused with a number of febrile diseases, notably, typhoid fever, malaria, influenza and tuberculosis. Less often, it has mistakenly been diagnosed as subacute bacterial endocarditis, acute rheumatic fever, appendicitis, pyelitis, cholecystitis, bronchitis, or tularemia. It is not infrequently the experience of physicians to arrive at a belated diagnosis of undulant fever after Widal reactions have repeatedly proven negative and roentgenographic examinations have failed to give evidence of tuberculosis.

Recent investigations have brought to light the fact that the majority of undulant fever cases exhibit a fairly characteristic clinical picture. From the evidence available, undulant fever appears to predominate among males, particularly in rural sections. Those most often affected are young and middle-aged adults. It is interesting to observe that children appear to possess some degree of immunity to the disease, apparently similar to that exhibited by calves.

The incubation period of undulant fever is variable from five days to four weeks, the majority of the cases having an average period of two weeks. In the typical case, the patient becomes gradually aware of an afternoon or evening rise of temperature, accompanied by marked weakness and associated with chills and night sweats. In the early stages of the infection, the patient usually feels quite well in the morning, but during the afternoon or evening, the symptoms of fever, chills and sweats return. As the disease progresses, the nocturnal exacerbations of temperature may reach great heights—temperatures of 106 degrees or 107 degrees F. have been reported. The average maximum afternoon or evening fever is 103 degrees F. One of the striking features that is often encountered, is the remarkable disparity between the subjective sense of feverishness, and the temperatures registered by the clinical thermometer. The patient may not complain of fever or present a febrile appearance, and yet show a temperature of 102 or 103 degrees F. With the subsidence of the fever, chills and sweats are experienced, a rapid defervescence followed by a sweat which is drenching in character. In about one-third of the cases, the chills are severe enough to be regarded as true rigors. Ten percent of the patients do not give a history of chills. Insomnia and restlessness frequently accompany the febrile exacerbations. Occasionally, delirium occurs in cases where the fever is high. As a rule, in spite of the high fever the mental state remains clear. The pulse rate is always accelerated.

The duration of the attack fever varies from one week to many months. While the designation "undulant fever" is aptly descriptive of the relapsing type of the disease, this type appears to be the exception rather than the rule in the recently described American cases. The typical American case will run a febrile course with morning remissions and evening exacerbations for a period of from three weeks to eighteen months, finally reaching a normal level by lysis.

Loss of appetite and constipation are the characteristic gastro-intestinal complaints of a case of undulant fever. The more severe the infection, the greater the degree of constipation. Another almost constant feature of the disease is the marked loss of weight. Severe cases will lose from twenty-five to fifty pounds in weight during the course of an attack.

About one-third of the cases will exhibit a palpable spleen. The same proportion will complain of muscular and joint pains, accompanied by tenderness over the painful areas. Redness about the joints in these cases is, however, seldom encountered. Among the neurological manifestations that may be a part of the clinical picture are: cutaneous hyperaesthesia, persistent sciatica, "eyeache" or

optic neuritis, depression, irritation, anxiety, neurosis and asthenia. Insomnia has been mentioned.

Other findings of less frequent occurrence are unusual skin manifestations in the form of macular lesions, enlargement of the superficial lymph nodes, orchitis and oophoritis. While several investigators have reported abortions and still births among cases, no definite proof was given that they may not have occurred as a result of other causes. In same cases, pharyngitis and bronchitis have been present throughout the entire course of illness.

In about ten to thirty per cent of the cases, abdominal pain forms part of the clinical picture during the acute manifestations of the disease. This has led to surgical operations in a number of reported instances. It is, therefore, a matter of some importance that the surgeon be aware of the characteristics of the disease in order to avoid unnecessary surgical intervention.

The blood picture of undulant fever is that of a secondary anemia — the degree of anemia being usually proportionate to the severity of the illness.

The great majority of cases exhibit a leukopenia with the white blood cell count ranging from 4,000 to 6,000. There is usually a relative lymphocytosis accompanying the leukopenia. Mild cases will often present a normal blood picture.

Urinalysis will, during the febrile course, sometimes show a slightest possible trace to a trace of albumen. In some severe cases, examination of the cerebro-spinal fluid will show a slight lymphocytosis and an increased sugar content.

Clinical Types

From a clinical standpoint, four types of undulant fever are described:

1. Intermittent.
2. Ambulatory.
3. Undulatory.
4. Malignant.

Intermittent Type

Most of the cases which have been carefully observed in the United States fall into this group. The disease follows a subacute course, the fever is intermittent with little or no morning elevation in temperature, sometimes even being slightly subnormal, and an afternoon or evening rise to a range of 101 to 104 degrees F. The duration of this type is from one to ten months, the average being three to four months.

Ambulatory Type

No particular chain of signs or symptoms characterize the ambulatory type of case, except possibly a marked sense of weakness accompanied by a slight degree of fever in the evening. Most frequently the symptom complained of is a feeling of lassitude in the afternoon and evening, accompanied by occasional night sweats; about one-fourth of the observed cases fall into this group. It is not uncommon for this type of case to be confused with influenza.

Undulatory Type

The characteristic feature of this type of the disease is the occurrence of relapses followed by periods of quiescence during which no elevation of temperature or clinical symptoms are exhibited. As the disease progresses, the relapses usually become less intense and are shorter in duration. This type of undulant fever follows a more chronic course than the others. It has been present in about fifteen per cent of the reported American cases. Physical and mental deterioration are more commonly observed in this type than in the others.

Malignant Type

The malignant type of infection is rarely seen in the United States. During the past three years, it has been encountered more frequently in the Maltese Islands than in former years. A sudden onset, a short, acute course, extreme prostration, a high, sustained temperature, delirium, and severe head and muscular pains characterize this type. Most cases of this type have a fatal termination. The average duration is about three weeks.

Sub-Clinical Type

A sub-clinical type of infection has recently been described. It is so mild and of such short duration that it usually passes undiagnosed. The symptoms are occipital headache, general aching, weakness, and loss of appetite. The temperature may reach an elevation of 103 degrees F. in the evening. The duration is from three to seven days.

Diagnosis

It is quite probable that if undulant fever is considered in the differential diagnosis of febrile disease in general, and particularly in cases where there is lack of adequate confirmation in suspected tuberculosis, typhoid fever, influenza, rheumatic fever, bacterial endocarditis, pyelitis, malaria, and chronic bronchitis, the disease would more often be recognized. For a satisfactory examination, 4 or 5 cc. of the patient's blood, drawn in the same manner as for the Wasserman test, is all that is required. Huddleson[30] of the Department of Bacteriology and Hygiene, Michigan State College, has devised a

simple and reliable rapid microscopic agglutination method, which has come to be employed universally in diagnostic laboratories.

Laboratory studies have shown that anti-B. Abortus serum agglutinins may appear as early as the fifth day of the disease; however, in most instances they appear during the course of the second week of illness. It would, therefore, be advisable not to collect a blood specimen until about the tenth day after the onset of symptoms. Occasionally, it has been found that agglutinins do not appear until the third or fourth week of illness.

There is commonly observed a rise in the agglutination titer with the acuteness of the course of the disease, and a decline with the abatement of the fever. During the third to the sixth week of illness, in an average case, the agglutination titer varies from 1:100 to 1:2000, the degree of agglutination being from two plus to four plus.

In addition to the agglutination test, Huddleson[31] employs an allergic test, and an opsono-cytophagic reaction which he combines to determine the status of a given individual with respect to Brucella infection. This system of diagnosis, however, awaits further confirmation.

Studies have disclosed that approximately 5 per cent of individuals with undulant fever, proven positive by blood culture, fail to develop Anti-B. Abortus agglutinins. At the present time, no arbitrary diagnostic agglutination titer criterion exists for the disease. It is accepted, however, that an agglutination two or more plus in a titer 1:100, or above, is of sufficient significance for a positive diagnosis.

The satisfactory isolation of the Brucella organism from the blood stream, and the isolation of the organism from the urine and stool of cases is beset with technical difficulties which make these attempts impractical at present for general employment by diagnostic laboratories. Also it takes as a rule from three to six weeks time of growth on suitable media and conditions before the organisms can properly be identified.

It is interesting to observe that cross-agglutination of the Brucella and the Bacterium Tularense occasionally occurs. On the basis of this fact, Francis[32] and Evans have suggested that all serums from suspected cases of tularemia or undulant fever should be tested for both anti-B. tularense, anti-B. Abortus agglutinins. Should, however, the agglutination titers be the same, or nearly so, agglutinin absorption tests will usually differentiate the two.

Prognosis

Cases reported in the United States have had a fatality rate of from one to four per cent. It is important to bear in mind that the seriousness of undulant fever is not in its death rate, but in the invalidism, incapacity, and economic loss that the infection produces.

Treatment

No specific form of treatment has as yet been conclusively evolved in therapeusis of undulant fever. In general, it has been directed toward the alleviation of prominent symptoms. Intravenous therapy with neoarsephenanine, mercurochrome, and quinine has been reported favorably in the literature. In our own experience with several cases, a course of intravenous neoarsephenanine, which we recommended, has apparently proven beneficial in the prompt reduction of fever and alleviation of symptoms. One case, a patient at the State Hospital for Mental Diseases, seen by the writer, and reported by Dr. Harvey E. Wellman before the Providence Medical Association, not only exhibited a prompt symptomatic recovery, but also showed a definite improvement in her mental condition.

Favorable results with specific vaccine therapy have been reported by many observers. Simpson, in Minnesota, has prepared and utilized a Brucella Abortus vaccine, standardized to two billion heat or formalin killed organisms per cc., which he has personally employed in seventy-two cases. He has also distributed the vaccine to some 400 physicians throughout the United States, who have reported that the vaccine has effected a shortening in the course of illness and a prevention of recurrence. Huddleson[33] has prepared a vaccine which he calls "Brucellin." A recent report of its use in a number of cases with beneficial effect leads the investigator to believe that he may have a possible specific for undulant fever in man.

Public Health Aspect

Far more important than any other consideration is the Public Health Aspect of undulant fever. Our state veterinarians conservatively estimate that 15-30% of the cows in Rhode Island are infected with Bang's disease. From our own observations, this infection is widespread throughout the state; its control is, therefore, particularly difficult, especially in view of the fact that a large proportion of the infected animals eliminate vast numbers of organisms in the milk and vaginal discharges with-

(*Continued on page 189*)

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Meets the first Thursday in September, December, March and June

ALBERT H. MILLER	*President*	Providence
ROLAND HAMMOND	*1st Vice-President*	Providence
JOHN E. DONLEY	*2nd Vice-President*	Providence
J. W. LEECH	*Secretary*	Providence
J. E. MOWRY	*Treasurer*	Providence

DISTRICT SOCIETIES

KENT

Meets the second Thursday in each month

DR. JOHN A. MACK	*President*	West Warwick
DR. L. J. SMITH	*Secretary*	Buttonwoods

NEWPORT

Meets the second Thursday in each month

JOHN RIDLON	*President*	Newport
ALFRED TARTAGLINO	*Secretary*	Newport

PAWTUCKET

Meets the third Thursday in each month excepting July and August

HENRY J. HANLEY	*President*	Pawtucket
THAD A. KROLICKI	*Secretary*	Pawtucket

PROVIDENCE

Meets the first Monday in each month excepting July, August and September

CHARLES F. GORMLY	*President*	Providence
P. P. CHASE	*Secretary*	Providence

WASHINGTON

Meets the second Wednesday in January, April, July and October

E. E. KENYON	*President*	Kingston
JOHN CHAMPLIN, JR.	*Secretary*	Westerly

WOONSOCKET

Meets the second Thursday in each month excepting July and August

W. A. BERNARD	*President*	Woonsocket
T. S. FLYNN	*Secretary*	Woonsocket

R. I. Ophthalmological and Otological Society—2d Thursday—October, December, February, April and Annual at call of President. Dr. Robert C. O'Neil, President; Dr. N. A. Bolotow, Secretary.

The R. I. Medico-Legal Society—Last Thursday—January, April, June and October, Archibald C. Matteson, President; Dr. Jacob S. Kelley, Secretary-Treasurer.

EDITORIALS

HEIL HITLER

Newspaper reports that hunger, cold, starvation and privation are to be popularized in Germany, as an evidence of patriotism, are, of course, alarming to the American mind, and one wonders how much "Ballyhoo," coercion and terrorism are going to be necessary to carry the point as an excuse of the failure of an apparently incomprehensible dictator.

As we approach the busy seasons of fall and winter, one realizes the patriotic desirability of attendance at medical meetings, but wonders how much Spartan fortitude is going to be necessary to carry out that conscientious duty.

One cannot wink at the facts that there are not only too many medical and allied meetings which we feel required to attend, but that at least half of them appears a complete waste of Christian time. The average meeting, whether it be State, County, or the ordinary Staff meeting, should stimulate enthusiasm and arouse interest in new phases of medical subjects, and eventually extend our usefulness to our clientele.

Paradoxically they usually do the opposite. Few medical meetings convene on time, and fewer still terminate promptly. The average meeting is medi-

ocre in interest, and the average speaker is somewhat too verbose to be anything but tiresome.

Isn't this the time to call attention to the various chairmen, who are charged with the difficulty of conducting these meetings, to try and make this coming season of activity notable in meetings of "short and snappy" programs devoid of the sedative lethargy of drawling, dragging speech, and run off with the precision and *brevity* of a radio hour?

Surely, any chairman who can accomplish this much is deserving of a niche in the Hall of Fame and a Congressional Medal of Honor. And yet how simple! All one needs is a watch and a stout, sonorous gavel. Let's start on time, and *close* promptly. Let's eliminate the papers produced only for self-advertisement. Let's silence irrelevant "discussion." Let's have, if necessary, censorship and rehearsal to be sure the papers are really worth while, brief, and above all, well delivered. Let's select, whenever possible, good medical "public speakers" instead of hesitant, stage-struck men to whisper their efforts punctuated with interminable "ers" and "ahs."

Must we be "patriotic" by Spartan fortitude in a winter of horror listening to long drawn out, interminable, negative medical meetings?

ALCOHOL

The recent study in the J.A.M.A. upon the bearing of alcohol upon automobile accidents would seem to be the first pronouncement of the medical profession of importance in many years upon this important subject. Since the remote time when Atwater and Wylie showed that alcohol was oxidized in the body and gave the liquorists' claim that it was a food we have been very chary of what seems to many our sworn and bounden duty. Our attitude has been one of humoristic toleration. A very large number of physicians and of the other learned professions use alcohol. The position of the reverend clergy has been one of affable acquiescence and the old time temperance sermon has almost disappeared from our ken.

The liquor propaganda, however, has been active and well organized. At the present time almost every food shop is a liquor store, liquor is advertised on almost every printed page, and if it is to be considered a temptation the suggestion is omnipresent. Data upon the economics of alcohol are voluminous and at present unheeded. This cogent and illuminating article would seem to show that physicians have been distinctly remiss in our professional duty for not having brought the toxicity of alcohol forcibly before our public to, in a measure, offset what is no less than depravity.

DRUGS

The appearance on the program of the R. I. Medical Society of a paper on the use of hypnotics and sedatives is most noteworthy.

However, all physicians should be thoroughly posted regarding the merits and demerits of drugs of recent vintage. They should know their drug force that they may not use a sledge hammer to drive tacks and that they may obviate the inconveniences and harmfulness of opium too often exhibited when there is discomfort rather than pain.

Surgeons require a knowledge of drugs of the lesser grades of power for the comfort and convenience of their patients.

There is hardly a more timely subject in medicine. For many years about from one to two hundred new therapeutic preparations have been added to our armamentarium; some of these are of value, many of them even dangerous. They are released to the public in enormous quantities and are often accompanied by misleading and fraudulent literature. Descriptive literature sent to physicians is frequently so extravagant in its claims and so denunciatory of similar products that it may be discarded with casual reading. Whenever a preparation is found that seems helpful it is soon followed by a large number of similarly named products, some of which show but little resemblance. This is particularly true of the barbiturates. It is indeed a well trained mind that can select a suitable hypnotic from the large number of preparations which clamor for attention. It is interesting to find that a drug which has served one well in many difficult and trying cases is either dangerous or worthless and that one has many times jeopardized the life of his patient by a dose which has seemed to act well and which has pleased both physician and patient.

It is well known that medical schools vary in their interest in therapeutics and that graduates carry into their fields of activity varying degrees of confidence in the use of drugs. For this and many other reasons one rejoices that there is evidence of

a revival of interest in pharmacodynamics. It is to be hoped that this will be substantial and long lasting and in a measure offset the flood of inaccurate drug propaganda which is harmful to the progress of medical science and to the professional and public health.

WHAT TO DO! WHAT TO DO!

The plight of the doctors is all too familiar to all of us, but as the symptoms develop an amelioration of the disease may be made possible if indeed a cure is not permitted. Under three or four heads it may be touched upon as indicative of the major disturbance.

The matter has been discussed at length by men of allegedly great minds and others in the profession and out of it; by physicians, health officials, lay and welfare workers and through a million dollar (and more) combination of minds known as the Committee on Costs of Medical Care, who, in brief, advises us to locate around a hospital, sectionize the community and collect remuneration (maybe) by taxation, insurance or both—taxation means legislation and doctors certainly do not dominate legislatures. On top of this, at the modest sum of $4,000 a year, it would cost the state of Rhode Island nearly four million dollars to pay its doctors. And would the taxpayers make a row! Insurance companies are organizations established essentially as business enterprises; out to make money, under this proposition, with the doctor's help. In any event the direction and administration must come from a central head, and under these conditions the doctor ceases to be an entity and becomes a tool. All of which appears to us as an evasive and awkward way of putting us in the category of medical communism.

This proposition is no solution of the doctor's problem.

In the problem of what's what in medical affairs might be mentioned the activities of certain bodies known as Boards of Health, who, assuming administration of a community's health, become at times imbued unconsciously with definite socialistic tendencies in the fact that doctors appear to be regarded as an adjunct to the Board instead of the Board being a help to the doctors. In the Board's concern over the general health of the people it is altogether possible to overreach and by literature and word-of-mouth advise, not only to prevent sickness (with which there is no quarrel), but at times also advise as to proper medical procedure when a sickness develops.

This might not be termed meddlesome if said Board were to care for the sick in extremity or in emergency. Furthermore, we might be more receptive to this attitude if socialization of medical care was really acceptable and we were under the mantle and regimen of the Board.

If socialization is not the aim, it would be better to wait and help the doctor (if asked to do so), who would not then be shifting his balance from one foot to the other awaiting a chance to attend to his own practice.

We might also mention the ever-growing number of our public clinics and welfare agencies that are eagerly "manned" and made possible by physicians who often rail against abuses; but they stay and stay and take the "rap." Why?

People feel obligated and do pay for coal that they be warm; they pay for gas and electricity that they may have light; they pay for food that they may eat. Why not, therefore, pay the doctor that they may live and not further abuse his philanthropy? Be it understood that this arraignment applies only to the many hundreds who needlessly are permitted to crowd our clinics, the great reason for which is that the public has been educated in free service and it is realized that on the next street or corner is a hospital, clinic or dispensary where everything can be had for nothing. (Why pay a doctor? Who pays for fruit that falls into the hand?) The attendants at these institutions get paid but the doctor just holds the bag.

The answer is largely in our own hands. The doctor, collectively, is the last person on earth to withhold help, especially in tribulation, to the really indigent; but if he continues to live, he must be assured that he is not buying an automobile or building a house for somebody else or working for nothing that another may thrive. Will the physicians of Rhode Island take the initiative in a sincere and determined way to correct conditions, or have we builded a machine to destroy us?

DOCTORS' OFFICES AND THE ZONING LAWS

Inflexible rules, ordinances, and statutes seem to have a way of eventually causing unforeseen complications that were never intended by the original framers.

This appears to be the present working of many phases of the Zoning Law of Providence, with particular reference to doctors' offices.

More and more instances appear in which the use of a building for a reputable physician's office is protested or refused, even though it is within a stone's throw of many other such offices and is beyond the pale by but the crossing of a street. Recently an excellent old dwelling was remodelled with rare good taste by the physician purchaser, in such a way as to greatly improve not only the appearance of the property but also the entire neighborhood, and yet when that highly reputable practitioner desired to share his very attractive quarters with another equally high grade doctor, protests flew in from all sides.

Doctors are almost without exception good citizens, highly educated, and gentlemen. They are rather large taxpayers, pay their bills, live cleanly and keep their property up in such a way as to be a credit to the neighborhood. Their offices involve no offensive conditions to neighbors, no heavy, noisy machinery, no trucking, no offensive odors, or troublesome clients.

It is difficult to fathom the mental processes of neighbors who can find objections to the presence of professional gentlemen, of honorable tradition and high calling, and class the quiet, well conducted office as a business nuisance. The JOURNAL deplores that attitude towards our profession that contributes so largely and generously to the sick, and the poor, and the suffering members of the community. It is sincerely hoped that the intelligent members of the Zoning Board will become more and more enlightened in this matter, and be able to look beyond neighborhood peevishness to a liberal interpretation of rules that encourage the establishment of splendid and high grade doctors' offices.

PROVIDENCE COMMUNITY FUND, INC.

In making its annual appeal to the citizens of Providence for funds to carry on the welfare work of thirty-eight associated agencies, the Providence Community Fund stresses two outstanding facts:

First, that government relief work, as extensive as it is, can only bring to people suffering as a result of economic conditions, the actual assurance against starvation and freezing.

Second, the great work of the welfare agencies is urgently needed during the present period—even more urgently needed than ever before.

The Campaign goal of $613,254 represents an increase of $63,254 over amount *actually* raised last year—but is more than $100,000 less than last year's quota. Note how your contribution to the Providence Community Fund is divided. About 13 cents of every dollar goes for the aid, care, and welfare of children, insuring them protection and training—and preventing suffering from insufficient food, lack of proper environment and necessary medical attention.

Thirty cents of your dollar goes for Health Care and Nursing—for hospitals for motherhood—for the great fight against tuberculosis—for mental hygiene—for the organizations that have been our first line of defense against the terrific inroads of ill health that in periods of economic distress always cause wide-spread disturbance.

Thirty-one cents of your dollar goes for relief and family service—for the prevention of the breaking-up of families—for the care of aged people—for the training of the handicapped. Fifteen cents of your dollar goes to the building of character and the prevention of delinquency. It is cheaper for a community to build good men and women of its adolescent boys and girls than to build jails and houses of correction. Crime costs America 13 Billion Dollars annually. Six cents of your dollar is spent for general services—for co-ordinating the work of various organizations—for Americanization and educational work among foreigners. Two cents goes to defray the expenses of the Campaign itself.

The remaining three cents goes to pay the cost of administration, including the offices of the Community Fund, collections and bookkeeping, supervision of all agency expenditures, and educational publicity.

When you are asked to contribute this year—give as generously as your circumstances will permit. Your gift has *never* been needed more than it is now.

UNDULANT FEVER

(*Continued from page 185*)

out manifesting symptoms of the disease (abortion, retained fetal membranes, sterility, mastitis, and lessened milk yield).

At the present time, it appears that pasteurization is the most logical method for preventing the transmission of milk-borne undulant fever to human beings. Veterinary science is constantly

striving to perfect simpler and more effective methods for the eradication of B. Abortus infection among live-stock. The discovery and elimination of infected animals is a slow process; its greatest weakness lies in the length of time it takes to accomplish the desired result. In the meanwhile, to prevent the occurrence of human cases our sheet anchor is pasteurization. Investigators have conclusively shown that complete pasteurization (143 to 145 degrees F.) for 30 minutes, will destroy the Brucella. Pasteurization of milk renders it safe and provides protection, not only against undulant fever, but against all other communicable diseases transmitted through milk.

In order to protect the health of persons whose occupation necessitates the possibility of their coming in contact with the tissues of infected animals and their products, we must rely on the institution of precautionary measures, and on widespread education. Mohler, Chief of the Bureau of Animal Industry, has stated: "Infectious abortion is so widespread and the milk of so many animals is infected that the main dependence for protection against whatever danger there may be from B. Abortus in milk, must be placed in pasteurization which, if properly done, will make the milk safe until the dairymen can eradicate the disease from their herds."

Alice Evans[34] has clearly summarized the importance of pasteurization with respect to undulant fever prevention in the following: "For the protection of milk consumers, the preventive measure is quite obviously the same as that practiced for the prevention of other infectious diseases that are spread by milk, namely, pasteurization. Those who are able to pay the price for certified milk may take raw milk with a reasonable degree of safety, *if certification guarantees that the milk is from an abortion free herd.* No milk other than that certified or pasteurized can be considered safe, for the cattle disease is widespread everywhere in the United States. It is fortunate that the preventive measure of pasteurization is so easily available."

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CLINICAL PATHOLOGICAL CONFERENCES

Case No. 2

Presented by Dr. William Newton Hughes

L. C., about 60 years old, was admitted to the neurological service R. I. H. on June 9, 1932, because of unconsciousness and Jacksonian convulsions involving the entire left side of the body, and she died on June 14, 1932, without recovering consciousness or recovering, except for short intervals, from her left-sided Jacksonian convulsions. Shortly after admission she was given 1500 cc of saline solution subpectorally.

Nothing in regard to her life previous to admission was known.

The pertinent facts in her physical examination follow:

Pupils were contracted and did not react to light and distance.

Fundi showed a mild degree of papill edema.

Heart: Rhythm regular. Rate 120. Blood pressure 120 systolic. 88 diastolic. There was a harsh systolic murmur at the apex and at the base of the heart but apparently there was no enlargement of the heart.

Lungs and abdomen were negative.

There was incontinence of urine.

The left arm and the left leg were spastic. Jacksonian convulsions recurred at short intervals and involved the entire left side of the body.

Reflexes	*Right*	*Left*
Biceps jerk	+	+ +
Tricep jerk	+	+
Knee jerk	0	very slight
Achilles jerk	very slight	very slight
Patellar clonus	0	0
Ankle clonus	0	0
Babinski	+	0
Chaddock	0	0
Oppenheim	0	0
Kernig	+	+

Neck rigidity was absent.

Brudzinski's contralateral reflex was present, i.e., flexion of the leg on one side produced flexion of the leg on the other side and vice versa.

Laboratory Findings

Blood Chemistry (June 9): urea nitrogen 21 mg., creatinin 1.5 mg., sugar 103 mg.

Urine (June 10): slightest possible trace albumen; no sugar; negative sediment.

Blood Wassermann and Hinton tests negative.

Spinal Fluid (June 9): Wassermann negative; total protein 69 mg.; globulin least possible trace; sugar 85 mg.; lymphocytes 8 and red blood cells 644. Initial pressure 210 mm. water increased to 215 on left jugular compression and to 350 on right jugular compression. After removal of 10 cc clear fluid, the final pressure was 80 mm. water.

Spinal Fluid (June 11): Total protein 80 mg.; globulin least posible trace; sugar 76 mg.; lymphocytes 5 and red blood cells 14; colloidal gold 2333443220. Initial pressure 55 mm. water increased to 120 on left jugular compression and to 85 on right jugular compression. The dynamics were sluggish. After removal of 4 cc very slightly yellow fluid, the final pressure was 30 mm. water.

During her first two and one-half days at the R. I. H. her rectal temperature ran between 99° F. and 103° F.; her pulse between 100 and 120; and her respirations between 18 and 20. During her last two and one-half days at the R. I. H., temperature, pulse and respiration all rose gradually and in a parallel fashion till she died in a cyanotic and stertorous condition. Terminal temperature, pulse and respirations were respectively 106.5° F., 160 and 60.

In differential diagnosis a right-sided cerebral hemorrhage near the cortex and a right-sided brain tumor in the same location were considered. As cerebral hemorrhage was felt to be the best diagnosis and as brain tumor was not considered very seriously, an X-ray picture of the skull was not taken.

Surgery to relieve intracranial pressure or to evacuate or remove an encysted superficial area of cerebral hemorrhage was discussed, but, in view of the patient's age and future outlook if she survived an operation, nothing was done.

COMMENTS

DR. HUGHES: As far as the information available on admission is concerned, the unconsciousness and Jacksonian convulsions tend to place the difficulty in the head, and with the lesion placed in the head we considered as possible the following conditions: vascular, inflammatory, neoplastic, and toxic-degenerative.

Examination: ("Pupils were contracted and did not react to light and distance.") Pupils which are contracted and do not react to light and distance, unless they are related to syphilis, usually are related to the pons, and show a circulatory difficulty there which is caused by local or generalized increased pressure within the brain. Such a condition often indicates a poor prognosis.

("Fundi showed a mild degree of papilledema.") This suggests also general increased intracranial pressure, and that the circulatory difficulty in the pons is due to the brain stem being pushed down into the foramen magnum. When the brain stem is forced into the foramen magnum, the tonsils of the cerebellum are pushed down there too and we would expect to find a pressure cone in that area.

Heart: If we considered the possibility of the lesion being a cerebral hemorrhage, the fact that there was no enlargement of the heart such as would go with hypertension would tend to rule out hypertension as the cause of the hemorrhage, even if we did not have recorded a normal blood pressure.

Incontinence of urine might occur with any profound unconsciousness.

Spasticity and Jacksonian convulsions on the left tend to indicate that the right cortex was involved.

Reflexes, etc.: As far as the neurological examination goes, the signs tend to show lesion on the right side of the brain. The knee jerk was a little more active on the left. The Babinski reaction being on the side opposite the presumed lesion could be explained as due to pressure transmitted across to the opposite side of the brain. The positive Kernig sign indicates some sort of meningeal involvement. The fact that neck rigidity was absent would tend to rule out meningitis and subarachnoid hemorrhage which would be extensive enough to produce the unconsciousness found in this patient. Flexion of the leg on one side produced flexion of the leg on the other side, and this Brudzinski's contralateral reflex could be present in any one of the four conditions mentioned previously.

Laboratory Findings: The blood chemistry and urine findings would tend to rule out a toxic kidney condition.

Spinal Fluid: Sugar 85 mg.; lymphocytes 8 and red blood cells 644. These findings might be accounted for by blood which got into the spinal fluid at the time of spinal puncture or which got into the spinal fluid from some lesion of the brain. Initial pressure of 210 is slightly high. The last spinal fluid is different from the first spinal fluid. The decreased rise on right jugular compression would tend to indicate the possibility that there had occurred a block somewhere, presumably on the right side of the brain. The increase in total protein from 69 mg. to 80 mg. tends to show that the process in the brain is increasing. The type of death in this case is an intracranial one with rising temperature, pulse, and respiration—all rising in parallel fashion. This is due to interference with the circulation of the pons.

We would expect to find our diagnosis among one of the four conditions which were mentioned in the beginning, vascular, inflammatory, neoplastic, and toxic-degenerative. We will start with inflammatory first. As far as brain abscess is concerned, there is no focus and very few brain abscesses occur without a focus being present. Syphilis would be ruled out by negative Hinton and Wassermann tests on the blood and a negative Wassermann test on the spinal fluid. Meningitis—staphylococcic, streptococcic, pneumococcic, tuberculous, or meningococcic—does not appear likely, for in the spinal fluid the cells are normal; the protein is not increased as much as you would expect, and the sugar is not decreased. In tuberculous meningitis you usually have a larger number of cells. Kernig and Babinski signs could go with tuberculous meningitis, but you would expect more eye signs than we had in this patient. Next, we will rule out toxic-degenerative conditions. As far as we could tell from one urinary examination and from a normal blood chemistry, the kidneys were normal. We have, as far as examination is concerned, no reason for considering a toxic or a degenerative state. Having inflammatory and toxic-degenerative conditions ruled out, we have the possibility of vascular and neoplastic conditions to consider.

Practically all the findings are consistent with either vascular or neoplastic conditions. Jacksonian seizures tend to occur in both of these conditions, but are more common in tumor cases. The spinal fluid dynamics, the increasing total protein, and the colloidal gold reaction might go with either condition. The type of death with temperature, pulse, and respiration all rising in parallel fashion before death could go with either one of these two conditions. The Kernig and Babinski signs could go with either, provided the vascular lesion or the tumor were situated near the meninges. The fact that the heart was not enlarged would tend to go against the diagnosis of vascular lesion caused by previous hypertension.

A right cerebral hemorrhage near the cortex was felt to be the best diagnosis.

If an intracerebral hemorrhage had occurred, it might have become encysted so that the fluid could have been aspirated or the entire encysted area might have been removed. Surgery was discussed, but the patient was not considered a satisfactory surgical risk, and it was felt that, if a patient of sixty years with such a lesion survived an intracranial operation, her chances of adjusting to life mentally or physically in anything like a normal fashion were very slim. For a vascular lesion surgery was not considered indicated, and without a more adequate history than was obtainable it was not felt justifiable to explore for neoplasm.

DR. KINGMAN: "This case is one in which I felt the neurological men were working under a handicap. She came in without any history at all. In most cases the history seems to be of extreme importance. Had anything happened to the woman? Had she had fits? We know nothing about it at all and it seems to me that Dr. Hughes has worked it down pretty well. We don't know whether this is acute or chronic. The chance is that something acute had happened. Now we have the spinal fluid, and the neurological signs and the eye signs. It seems to me they all point to a lesion involving the right cortex which seems to me to be above the right internal capsule — hemorrhage and new growth. A hemorrhage can occur spontaneously in young people. You may have a small aneurysm or some condition of that sort that has given hemorrhage. It might be traumatic. We know we can get trauma without any evidence of fractured skull. The little blood in the spinal fluid is due to the needle and looks as if some acute thing had happened. If she had a new growth, she had hemorrhage into the growth. I must confess that I have to admire the bravery of the neurological men to do lumbar punctures in these cases. I have seen patients die from having a lumbar puncture—they have died from pressure. Fortunately, in this case it did not go on to death.

Now as to the possibility of surgical interference in a case like that. Suppose it is acute—I rather feel in a case of that sort it better be explored. From her eye signs she has increased intercranial pressure and that has to be relieved. If you don't do anything in a case like that they are going to die. In a case twenty years ago where a patient had an infarct of the brain in about the mid lower region, I couldn't do anything except to relieve his pressure. I operated and since that time I have followed him and he is still going strong. I should say that it lay between vascular lesion or hemorrhage and that compression at least was indicated and could have been relieved provided the patient was in a state to stand operation."

Demonstration or Postmortem Material

DR. CLARKE: "I will take a minute to show the specimen. We have the brain here. The dura was firmly adherent over this area and, as you see, it was adherent not to the brain but to a tumor which lies in the brain. This is very sharply delimited and when we examine it carefully it is not in the brain. This tumor, in other words, was growing from the dura and pushing the brain downwards. There was a little necrosis and hemorrhage. It is a typical gross example of so-called meningioma or dural endothelioma or a dural-fibroblastoma."

Q.: "Could that have been applied by surgery?"

A.: "It could have been removed very easily."

Q.: "Would the skull show anything by X-ray?"

A.: "We couldn't get anything in this particular case."

Q.: "Did it show any hemorrhage?"

A.: "A very little hemorrhage."

Q.: "What degree of malignancy is it?"

A.: "These tumors are benign in the sense that they are encapsulated, they do not infiltrate and they do not metastasize."

SOCIETIES

PROVIDENCE MEDICAL ASSOCIATION

The regular monthly meeting of the Providence Medical Association was called to order by the President, Dr. Charles F. Gormly, Monday eve-

ning, October 1, 1934, at 9:45 o'clock. The records of the last meeting were read and approved. Invitations to the meetings of the Military Surgeons of the United States and the Inter-State Postgraduate Medical Association were read, also a letter concerning publicity material from the Community Fund.

The report of the Golf Committee was read by Dr. Bolotow.

The Standing Committee having approved their applications, the following were elected to membership: Francis E. Allin, William P. D'Ugo, Jesse P. Eddy, 3rd, Thomas A. Egan, Robert L. Farrell, Hugh J. Hall, Raymond F. McAteer, Mihran Missirlian, Rudolph W. Pearson, Amy E. Russell, George L. Young.

The president drew attention to the meeting next Monday, October 8th, to discuss medical economics, etc.

Drs. William L. Leet and Russell S. Bray presented a report on "Giardiasis" read by Dr. Leet. This is a syndrome apparently caused by a tadpole-shaped protozoan duodenal parasite with epigastric pain, anorexia, belching and vomiting. The organism is probably directly transmitted without an intermediate host. There are many treatments, as emetine, duodenal lavage, etc. Slides were shown demonstrating the organisms.

A symposium on "Backache" was opened by Dr. W. Jason Mixter, Neuro-Surgeon at the Massachusetts General Hospital, who gave a paper on "Rupture of Intervertebral Disk as a Clinical Entity." The basis for this paper was a small group of cases studied in the last year and a half. With a history of injury in about fifty percent, there is evidence of injury of the disk and extrusion of the soft nucleus pulposus. Careful X-ray examinations show narrowing of the disk and irregular protrusion and lipiodol injections may show a notch. A striking sign is diminution of one ankle jerk and the total protein is elevated in the spinal fluid. Laminectomy and careful search may show a small, irregular piece of cartilaginous tissue pressing against a nerve and a sinus into the disk. The operation is difficult and of course justified only in a very few carefully worked up cases. The symposium was continued by Drs. Henry McCusker, Roland Hammond, Murray S. Danforth, Harvey B. Sanborn and William A. Horan, who discussed the different types, causes and treatments of backache.

The meeting adjourned at 10:55 P. M.
Attendance 140.
Collation was served.

Respectfully submitted,
PETER PINEO CHASE,
Secretary.

ANNOUNCEMENT

The Radiological Society of North America will hold its next Annual Meeting at the Hotel Peabody, Memphis, Tennessee, December 3-7, 1934. The medical profession is cordially invited to attend. Further information may be obtained by addressing the Secretary-Treasurer, Dr. Donald S. Childs, 607 Medical Arts Building, Syracuse, New York.

BOOK REVIEW

I KNOW JUST THE THING FOR THAT, by Dr. J. F. Montague. Published by The John Day Company, New York, 1934.

This book conveys some information of value to patients with gastro-intestinal complaints, but it contains much repetition. It wisely advises against the use of Seidlitz powders in gastric and cardiac disturbances. It stresses the value of psyllium seeds in certain cases of constipation and urges the use of much water without stressing the fact that there are many people who cannot take large quantities of water without harm. It suggests that the use of sodium bicarbonate in cooking vegetables is not advisable even though it will tend to keep vegetables green, as it destroys certain vitamins. On the whole it tends to advise the use of little meat, though most recent medical writings tend to stress the use of more meat because of its value in anemias and because of the value of certain of its derivatives in the muscular dystrophies. Dr. Montague apparently fears low blood pressure more than most physicians. He suggests that the heaviest meal might best be taken at night. There is some evidence, however, that better sleep is obtained and that less sleep is needed if a smaller meal is taken at night. A light meal at noon is of value chiefly to those who wish to be very alert mentally in the afternoon. This book will appeal more to the layman than to the doctor.